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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/778,996	02/07/2001	Konstantinos I. Papathomas	END920000065US1	8725

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KEEEHAN, CHRISTOPHER M

ART UNIT	PAPER NUMBER
1712	

DATE MAILED: 11/08/2002

[Signature]

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/778,996

Applicant(s)

PAPATHOMAS, KONSTANTINOS I.

Examiner

Christopher M. Keehan

Art Unit

1712

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 11 October 2002.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1,5,6,8,13,14,18-29,31,37,39,41 and 43-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1,5,6,8,13,14,18-29,31,37,39,41 and 43-46 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.

- 4) Interview Summary (PTO-413) Paper No(s). _____.
 5) Notice of Informal Patent Application (PTO-152)
 6) Other: _____.

DETAILED ACTION

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 2-4, 7, 9-12, 15-17, 30, 32-35, 38, 40 and 42 have been cancelled per Applicant's amendment.

Claim Rejections - 35 USC § 102

The rejection of Claims 1, 5, 6, 18-29, 31, 36, 37, 39, 41 and 43 rejected under 35 U.S.C. 102(b) as being anticipated by Christie et al. (5,668,059) is maintained and is as set forth in the previous office action.

The rejection of Claims 1, 8, 10-15, 17-24, 31, 33-38, and 40 under 35 U.S.C. 102(e) as being anticipated by Dershem et al. (6,121,358) has been withdrawn due to Applicant's amendments.

Claim Rejections - 35 USC § 103

The rejection of Claims 13 and 14 under 35 U.S.C. 103(a) as being unpatentable over Christie et al. (5,668,059) is maintained and is as set forth in the previous office action.

The rejection of Claims 11 and 34 under 35 U.S.C. 103(a) as being unpatentable over Christie et al. (5,668,059) in view of Dershem et al. (6,121,358) has been withdrawn due to Applicant's cancellation of these claims.

The rejection of Claims 41-43 under 35 U.S.C. 103(a) as being unpatentable over Dershem et al. (6,121,358) has been withdrawn due to Applicant's amendments.

Response to Arguments

Applicant's arguments filed 10/11/02 have been fully considered but they are not persuasive for the maintained rejections as set forth above. Christie et al. do not appear to teach away from a flexibilizing agent comprising about 1% to about 5% by weight of the composition. Christie et al. disclose an amount of about 0.7 to about 2 parts per hundred (pph) by weight of the epoxy resin. The binder, which includes epoxy, is present in about 25 to about 80% by weight (col.10, lines 10-15). Therefore, the flexibilizer is present from, on the low end, about 0.175% ($25\% \times 0.7$) to 0.5% ($25\% \times 2$), to, on the high end, 0.56% ($80\% \times 0.7$) to about 1.6% ($80\% \times 2$). Therefore, the flexibilizer appears to be included in the instantly claimed range.

Note: Applicant submitted new claims as 43 and 44, but should have been claims 44 and 45. They have therefore been renumbered and referred to as such in the present office action.

Note: as mentioned in the previous office action, on page 3, lines 22-25 of the Specification, Applicant appears to be referring to the wrong patent.

New Claim Objections

Claim 39 is objected to because of the following informalities: claim 39 refers back to a cancelled claim. Appropriate correction is required.

New Claim Rejections - 35 USC § 102

Claims 1-5, 6, 8, 18-20, 23, 25-29, 31, and 39 are rejected under 35 U.S.C. 102(b) as being anticipated by Arldt et al. (5,766,670). Regarding claims 1, 5, 6, Arldt et al. disclose a composition comprising a resin material selected from the group consisting of epoxy and cyanate ester resins, wherein the resin material is an epoxy resin and comprises glycidyl ethers (col.4, line 1-col.5, line 23 and col.6, line 54-col.8, line 31), wherein the resin material is at least a dicyanate ester (col.10, line 65-col.12, line 46), a flexibilizing agent from about 0 to about 25% by weight, which encompasses the instantly claimed range (col.3, lines 59-61), and a filler (col.3, lines 1-15).

Regarding claim 8, Arldt et al. disclose a flexibilizer as instantly claimed (col.9, line 63-col.10, line 35).

Regarding claim 18, the same reasoning as set forth above for claim 1 also applies to claim 18, as the claim limitations are essentially the same, except for the structural limitations in claim 18. Arldt et al. disclose a material positioned as instantly claimed (Figure 1).

Regarding claims 19, 20, and 23, Arldt et al. disclose the instantly claimed substrate (col.2, lines 59-67).

Regarding claims 25-29, Arldt et al. disclose the instantly claimed compounds (co.4, line 1-col.5, line 23, col.6, line 54-col.8, line 31, and col.10, line 65-col.12, line 46).

Regarding claim 31, Arldt et al. disclose the instantly claimed flexibilizer (col.9, line 63-col.10, line 35).

Regarding claim 39, Arldt et al. disclose a catalyst as instantly claimed (col.6, lines 5-53).

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1-5, 6, 8, and 44 are rejected under 35 U.S.C. 102(a) as being anticipated by Day et al. (6,444,407 B1). Regarding claims 1, 5, 6, Day et al. disclose a composition comprising a resin material selected from the group consisting of epoxy and cyanate ester resins, wherein the resin material is an epoxy resin and comprises glycidyl ethers (col.3, line 23-col.4, line 20), wherein the resin material is at least a dicyanate ester (col.5, lines 11-35), a flexibilizing agent from about 3 to about 25% by weight, which is included in the instantly claimed range (col.6, line 44-col.7, line 22), and a filler (col.6, lines 35-39).

Regarding claim 8, Day et al. disclose a flexibilizer as instantly claimed (col.6, line 44-col.7, line 22).

Regarding claim 44, Day et al. disclose a flexibilizer comprising a thermoplastic material containing a thermoplastic oligomer backbone (col.6, lines 35-43).

Claim Rejections - 35 USC § 103

Claims 41 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Christie et al. (5,668,059). Christie et al., as applied above, are as set forth and incorporated herein. Christie et al. do not appear to specifically disclose the instantly claimed method steps. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have added the flexibilizer to the resin at an elevated temperature in a separate step because the flexibilizer acts to make the resin composition more resilient, and if not mixed with the resin and melted into the composition, then it does not have the desired flexibilizing effect on the composition.

Regarding claim 45, Christie et al. disclose the instantly claimed amount of flexibilizer (as set forth above in Response to Arguments).

Claims 41 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arldt et al. (5,766,670). Arldt et al., as applied above, are as set forth and incorporated herein. Arldt et al. do not appear to specifically disclose the instantly claimed method steps. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have added the flexibilizer to the resin at an elevated temperature in a separate step because the flexibilizer acts to make the

resin composition more resilient, and if not mixed with the resin and melted into the composition, then it does not have the desired flexibilizing effect on the composition.

Regarding claim 45, Arldt et al. disclose the instantly claimed amount of flexibilizer (as set forth above for 102 of Arldt et al.).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher M. Keehan whose telephone number is (703) 305-2778. The examiner can normally be reached on Monday-Friday, from 6:30 to 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert A. Dawson can be reached on 308-2340. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Christopher Keehan *C. Keehan*

November 5, 2002



Robert Dawson
Supervisory Patent Examiner
Technology Center 1700